

AMENDMENTS TO THE CLAIMS

Claims 1-22 (Cancelled)

23. **(New)** A method of producing an electrolytic capacitor comprising an anode layer formed of a valve metal foil having through holes formed therethrough and a coarsened surface, a dielectric layer of an oxide film formed by anodizing a part of the surface of the valve metal foil, and a cathode conductive polymer layer formed on the dielectric layer, wherein the method comprises steps of:

- forming the through holes through the valve metal foil;
- attaching one electrolyzing electrode to one side surface of the valve metal foil;
- immersing the valve metal foil in a conductive monomer solution where an another electrolyzing electrode is disposed in the solution apart from the opposite side of the valve metal foil with respect to the one electrolyzing electrode;
- electrolyzing the solution between the one electrolyzing electrode and the another electrolyzing electrode to polymerize the monomer;
- generating an electrolytically-formed conductive polymer, starting on the one electrolyzing electrode side;
- making the electrolytically-formed conductive polymer grow through the through hole in the thickness direction of the valve metal foil; and
- covering the surface of the another electrolyzing electrode side of the oxide film on the valve metal foil by the electrolytically-formed conductive polymer, as the cathode conductive polymer layer.

24. **(New)** The method according to Claim 23, wherein the electrolyzing electrode is a cathode-side conductive polymer layer, the electrolytically-formed conductive polymer layer and the cathode-side conductive polymer layer being used as a cathode layer of the capacitor.

25. **(New)** The method according to Claim 23, wherein the electrolyzing electrode comprises a cathode-side conductive polymer layer and a metal foil provided on

the cathode-side conductive polymer layer, thereafter, the electrolytically-formed conductive polymer layer and the cathode-side conductive polymer layer being used as a cathode layer of the capacitor, and the metal foil being used as a cathode electric collector.

26. **(New)** The method according to Claim 23, wherein the method, prior to the polymerizing step, comprises a step of partly forming a conductive layer on the surface of the dielectric layer.

27. **(New)** The method of producing a laminated electrolytic capacitor, wherein the method further comprises steps of:

laminating a plurality of the electrolytic capacitors according to Claim 23 to obtain a laminate;

connecting a common anodic wiring electrode to the metal surface portion of each valve metal foil of the laminate; and,

connecting a common cathodic wiring electrode to each electrolytically-formed conductive polymer layer of the laminate.

28. **(New)** The method of producing a laminated electrolytic capacitor, wherein the method comprises steps of:

laminating a plurality of the electrolytic capacitors according to Claim 24 to obtain a laminate;

connecting a common anodic wiring electrode to the metal surface portion of each valve metal foil of the laminate; and,

connecting a common cathodic wiring electrode to each cathode-side conductive polymer layer of the laminate.

29. **(New)** The method of producing an electrolytic capacitor, wherein the method comprises steps of:

laminating a plurality of the electrolytic capacitors according to Claim 25 to obtain a laminate;

connecting a common anodic wiring electrode to the metal surface portion of each anode valve metal foil of the laminate; and,

connecting a common cathodic wiring electrode to each cathode electric collector of the laminate.

30. **(New)** The method of producing an electrolytic capacitor according Claim 27, wherein the method further comprises a step of anodizing a part of the anode valve metal foil again, after the metal surface portion is connected to the anodic wiring electrode and before one of the electrolytically-formed conductive polymer layer, the cathode-side conductive polymer layer and the cathode electric collector is electrically connected to the cathodic wiring electrode.

31. **(New)** The method of producing a electrolytic capacitor according to Claim 23, wherein the method further comprises a step of winding an electrolytic capacitor in the shape of a coil.

32. **(New)** The method of producing an electrolytic capacitor according to Claim 31, wherein the method further comprises a step of anodizing a part of the anode valve metal foil again, after the electrolytic capacitor is wound in the shape of coil.